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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/513,489	02/25/2000	Aravind Sitaraman	CISCO-1818	7304

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EXAMINER
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AVELLINO, JOSEPH E

ART UNIT	PAPER NUMBER
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2143

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/513,489

Applicant(s)

SITARAMAN ET AL.

Examiner

Joseph E. Avellino

Art Unit

2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5,9,13,21-24,26-29,45-48 and 50-71 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,9,13,21-24,26-29,45-48 and 50-71 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 1-5, 9, 13, 21-24, 26-29, 45-48, and 50-71 are pending in this examination.

#### ***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 2, 5, 13, 21, 25, 26, 45, 49, 51, 53-56, 58-61, and 63-71 are rejected under 35 U.S.C. 102(b) as being anticipated by Perkins (USPN 5,159,592).

2. Referring to claim 1, Perkins discloses a network access server (NAS) providing a connection to a user in a data communications network, said NAS being capable of communicating with a home gateway server (HGS), said NAS comprising:

an HGS identifier (pseudo-network number) identifying an HGS to which the request for an IP address is to be transmitted wherein said home domain is distinct from a domain associated with said NAS(col. 8, lines 45-68).

an IP address requester for requesting an IP address from the HGS (global Gateway or GW) on behalf of a user, without using a tunneling protocol, the HGS maintaining a pool of IP addresses for allocation to authorized users associated with the NAS (local Gateway or GW) (e.g. abstract; Figures 2-5; col. 5, lines 50-65);

an IP address relay for receiving an IP address allocated to the user from the HGS and for relaying the allocated IP address to the user (mobile unit) (e.g. abstract; Figures 2-5; col. 5, lines 50-65); and

a memory coupled with said IP address requester and said IP address relay, said memory storing association between an identification of the user and the IP address allocated to the user (col. 5, lines 15-27).

3. Referring to claim 2, Perkins discloses a detector for periodically detecting connection of the user to the NAS, said detector updating the association in said memory to indicate that the allocated IP address is no longer in use if the connection of the user is lost (col. 5, lines 27-49).

4. Referring to claim 5, Perkins discloses the HGS (global gateway) identifier is responsive to log-in information (i.e. serial number, or other identifying data provided by the mobile unit, since it is inherent that if there are multiple global gateways, there must be some distinguishing identifier provided by the mobile unit in order for the local gateway to determine which global gateway to forward the IP request) provided by the user (col. 8, lines 45-67).

5. Referring to claim 13, Perkins discloses a generator, responsive to the receipt of a disconnection request from the user (mobile unit), for generating and sending a notice

Art Unit: 2143

to the HGS (global gateway) that the user is no longer connected to the NAS (local gateway) (col. 6, line 59 to col. 7, line 2).

6. Claims 21, 25, 26, 45, 49, 54-56, 58-61, and 63 are rejected for similar reasons as stated above.

7. Referring to claims 51, and 53 Perkins discloses said IP address requester transmits the user's authentication information to the HGS with the request for an IP address (col. 5, line 50 to col. 6, line 20).

8. Referring to claims 64-67, Perkins discloses the global communications internetwork is the Internet (remote users spread over a wide geographic area) (col. 4, lines 21-38).

9. Referring to claims 68-71, Perkins discloses the user (i.e. mobile unit) belongs to the home domain (col. 8, lines 55-65).

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3, 9, 23, 28, 47, 57, and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins in view of Holt et al. (USPN 6,070,192) (hereinafter Holt).

11. Referring to claims 3, 23, 28, 29 and 47, Perkins discloses a NAS as stated in the claims above. Perkins does not disclose providing a receiver for receiving periodic queries about the connection of the user to the NAS and a responder to inform the HGS about the connection. Holt discloses a receiver for receiving periodic queries from the Network Controller (NC) about the status of the user connection to the NAS (col. 12, line 64 to col. 13, line 14); and

a responder responsive to said periodic queries for informing the NC that the user is still connected to the NAS (col. 12, line 64 to col. 13, line 14).

Holt does not disclose informing the HGS that the user is still connected, however the system of Holt could be obviously modified to incorporate the NC as part of

Art Unit: 2143

the HGS, therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the system of Holt to reduce the overall complexity of the system and reducing overall network traffic.

12. Referring to claims 9, 57, and 62, Perkins discloses a NAS as stated in the claims above. Perkins does not disclose the HGS identifier is responsive to call information associated with the incoming line. Holt discloses an HGS identifier responsive to call information associated with the incoming line used by the user to access the NAS for identifying an HGS to which to forward the user's request for an IP address (col. 11, lines 1-7). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Perkins with Holt to allow load balancing techniques such that bottlenecks are not realized at gateways as supported by Holt (col. 4, lines 45-50).

13. Referring to claim 52, Perkins in view of Holt disclose the NAS as stated in the claims above. Perkins in view of Holt do not disclose that the IP address requester uses RADIUS, however it is suggested by the prior art that it would have been obvious to incorporate RADIUS into the combined system of Perkins and Holt to provide for reduced complexity of the system while allowing for the ease of future upgrades or replacements.

Art Unit: 2143

Claims 4, 24, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins in view of Holt as applied to the claims listed above, and further in view of Inuoe et al. (USPN 6,442,616) (hereinafter Inuoe).

14. Referring to claims 4, 24, and 48 Perkins in view of Holt discloses a Network Access Server (NAS) as stated in the claims above. Perkins in view of Holt does not disclose the NAS comprising a receiver for receiving periodic signals from the user and a forwarder responsive to said receiver for forwarding information to the HGS that the user is still connected to the NAS. Inuoe discloses:

a receiver for receiving periodic signals from the user (col. 15, lines 21-24); and  
a forwarder (home router) responsive to said receiver for forwarding information to the HGS that the user is still connected to the NAS (col. 15, lines 25-26).

It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Perkins and Holt with Inuoe to efficiently monitor the connections in the network while reducing the complexity of the monitoring components.

Claims 22, 27, 46, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins in view of Holt as applied to the claims above, and further in view of Reid et al. (USPN 6, 233, 616) (hereinafter Reid).



Art Unit: 2143

15. Referring to claims 22, 27, 46, and 50, Perkins in view of Holt disclose a NAS as stated in the claims above. Perkins in view of Holt do not disclose detecting a connection with the user and sending periodic keep-alive messages associated with the user to the HGS as long as the continuing connection with the user is detected. Reid discloses detecting a connection with the user and sending periodic keep-alive messages associated with the user to the HGS as long as the continuing connection with the user is detected (col. 2, lines 54-61; col. 4, lines 39-46). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Reid with Perkins and Holt to efficiently determine if the user is connected to the system, efficiently reducing complexity of messages transmitted between components.

### ***Response to Amendment***

16. Applicant's arguments filed July 12, 2004 have been fully considered but are not persuasive.

17. In the remarks, Applicant argues, in substance, that (1) Perkins does not teach that the home domain is distinct from a domain associated with said NAS.

18. As to point (1), Applicant is correct in defining the term "domain" that is commonly used in the art as "a set of actual network addresses" (Response, p. 14).

Art Unit: 2143

However, Applicant is alleging that the home domain is the same as a domain associated with the NAS, which the Office respectfully disagrees. The Office takes the term "home domain" to be broadly construed as "a set of IP addresses associated with the HGS". As stated in Perkins (col. 6, lines 45-67), one could understand that the set of IP addresses of all the global gateways could be understood as the "home domain" and a domain associated with the NAS could be understood as the "set of IP addresses" which are serviced by the Local Gateway (the term used in Perkins for the NAS). One of ordinary skill in the art would understand that these two "domains" are distinct from one another. Furthermore the term "distinct" can be construed as "distinguishable". Any domain associated with the Global gateway (term used in Perkins for the HGS) can be distinguishable from any domain from a local gateway (the NAS) since the domain for the HGS would include the pseudo-domains from ALL local gateways associated with the global gateway. This "home domain" would be clearly distinguishable to one of ordinary skill in the art from any domain associated with the NAS. By this rationale, the rejection is maintained.

### ***Conclusion***

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

20. Valencia (USPN 6,754,712) discloses virtual dial-up protocol for network communication.

Art Unit: 2143

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph E. Avellino whose telephone number is (571) 272-3905. The examiner can normally be reached on Monday-Friday 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (571) 272-3923. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



JEA

February 16, 2005

William C. Vaughn  
Primary Examiner  
Art Unit 2143  
William C. Vaughn, J.